

NPE® SUN PLUS H1Z2Z2-K cable for photovoltaic systems

Structure and electrical, physical, mechanical requirements:	EN 50618:2014 IEC 62930 IEC 131
Flame propagation:	EN 60332-1-2
Corrosive gases or halogens:	EN 50525-1
Smoke density:	EN 61034-2
UV resistance:	EN 50289-4-17 (A)
Ozone resistance:	EN 50396
Resistance to heat stress:	EN 60216-1 EN 60216-2
Low Voltage Directive:	2014/35/EU
RoHS Directive:	2011/65/EU

REACTION TO FIRE



CPR COMPLIANT REGULATION 305/2011/EU

Standard:	EN 50575:2014+A1:2016
Class:	D _{ca} -s2, d2, a1
Classification:	EN 13501-6
Heat and smoke emission and flame development:	EN 50399
Flame propagation:	EN 60332-1-2
Corrosive gases or halogens:	EN 60754-2
Notified Body:	0051 - IMQ
CE	2022



Description

- Conductor: class 5, flexible, tinned copper
- Insulation: compound cross-linked (LSOH)
- Sheath: compound cross-linked (LSOH)
- Colour: black (red on request).

LSOH = Low Smoke Zero Halogen

Functional characteristics

- Rated voltage U_0/U between conductors and between conductor and earth:
1000/1000 V a.c.
1500/1500 V d.c.
- Max. voltage U_m (also to ground): 1800 V d.c.
- Max. conductor operating temperature: 90°C
- Max. conductor temperature at a max. ambient temperature of 90°C: 120°C (max. 20,000 hours)
- Min. operating temperature: -40°C (without mechanical shocks)
- Max. short circuit temperature: 250°C referring to a period of 5 sec.

Installation conditions

- Minimum installation temperature: -25°C
- Recommended minimum bending radius: 12 times the cable diameter
- Recommended maximum tensile stress: 50 N/mm² of the cross-section of the copper

Marking

LA TRIVENETA CAVI NPE SUN PLUS H1Z2Z2-K 1X[cross-section] mm² HALOGEN FREE LOW SMOKE 62930 IEC 131 TÜV Rheinland [no. license] [year] (CE logo) [order n.] [metric]

Special features

Thermal endurance properties (temperature index TI): 120°C referring to 20.000 h (EN 60216-1).

Water resistant according to AD8 classification, tested in according to EN 50525-2-21 Annex E (immersion for 100 days to 50°C):

- Minimum tensile strength after immersion > 7 MPa
- Minimum elongation at break after immersion > 200%
- Water absorption on sheath after immersion less than 40%.
- Insulation resistance tests with a minimum resistivity of 10¹¹ $\Omega \cdot \text{cm}$ measured after 14 days in water at 50°C.

Use and installation method

Intended for use in photovoltaic installations acc. to HD 60364-7-712.

They are intended for permanent use outdoor and indoor, for free movable, free hanging and fixed installation. Suitable for the application in/at equipment with protective insulation (protection class II).

TRIVENETA CAVI allows, thanks to internal tests, the use of the cable for underground laying even direct if undergrounding guidelines are taken into consideration.

NPE SUN PLUS H1Z2Z2-K

Formation	Approx. conductor \varnothing	Approx. external \varnothing	Max. electrical resistance at 20°C	Approx. cable weight	Current rating at ambient temperature of 60°C and conductor temperature of 120°C		
					1 cable in free air	1 cable on surface	2 cables in contact on surface
n° x mm ²	mm	mm	Ω/km	kg/km	A	A	A
1 x 4	2,4	5,20 ÷ 6,00	5,09	60	55	52	44
1 x 6	3,0	5,80 ÷ 6,60	3,39	82	70	67	57
1 x 10	3,9	6,90 ÷ 7,70	1,95	125	98	93	79

Correction coefficients for ambient temperature other than 60°C	
Ambient temperature (°C)	Correction factor
Up to 60	1,0
70	0,92
80	0,84
90	0,75

As for group installations, the correction coefficients of carrying capacity are included in document HD 60364-5-52:2011, table B.52.17.